

I claim:

1. An archery bow breech structure comprising body means having an elongated outer surface portion, a longitudinal pull axis, a front portion and a rear portion, bow string keeper means mounted on said front portion and movable between a cocked position and a firing position, trigger means slidably mounted on said outer surface portion of said body means and having a finger contact surface, cooperating first shoulder means on said trigger means and second shoulder means on said keeper means, said trigger means being generally axially movable relative to and independently of said body means to a first axial position wherein said keeper means can be moved to its cocked position, and further axially movable to a second axial position to engage said first and second shoulder means and release said keeper means to its firing position, and haft means mounted on said body means for hand pulling said body means along with a bowstring held by said keeper means, wherein said haft means is attached to said body means by spring means selected to impart a desired lost motion action to said haft means at a preselected bowstring draw force whereby the relative axial positions of said bowstring, body means, keeper means and trigger means remain substantially fixed during said lost motion action until said trigger means is physically moved rearwardly on said body means by the archer to said second axial position.

2. The breech structure of claim 1 wherein said trigger means is cylindrical in shape and is readily axially slidably mounted on said body means between said cocked and firing positions, said rear portion of said body means is provided with a first axial bore, said haft means has a shaft portion slidably mounted in said first axial bore, said spring means

comprises a compression spring retained in said first axial bore between third shoulder means on said shaft portion and fourth shoulder means on said body means wherein said spring urges said haft means toward its real time (not lost motion) draw position on said body means.

3. The breech structure of claim 2 wherein said front portion of said body means is provided with a second axial bore, a shaft portion of said keeper means is slidably mounted in said second axial bore, said second shoulder means on said keeper means being provided on said shaft portion and extending laterally beyond said outer surface portion of said body means, compression spring means in said second axial bore and urging said shaft portion and second shoulder means toward the cocked position of said keeper means.

4. The breech structure of claim 3 wherein a keeper notch on said keeper means, said first axial bore and said second axial bore all lie on substantially the same longitudinal axis.

5. The breech structure of claim 2 wherein said fourth shoulder means is provided by bushing means threadedly mounted in the rear opening of said first axial bore and adjustable axially thru said opening to vary said preselected bowstring draw force, and wherein said shaft portion of said haft means is slidably mounted thru an opening formed generally axially thru said bushing means.

6. An archery bow breech structure comprising body means 10 having an elongated outer surface portion 12, a longitudinal pull axis 14, a front portion 16 and a rear portion 18, bow string keeper means 20 mounted on said front portion 16 and movable between a cocked position 22 and a firing position 24, trigger means 26 slidably mounted on said outer surface portion 12 of said body means and having a finger contact surface 28,

cooperating shoulder means 30 on said trigger means and shoulder means 46 on said keeper means, said trigger means 26 being generally axially movable relative to and independently of said body means to a first axial position 34 wherein said keeper means 20 can be moved to its cocked position 22, and further axially movable to a second axial position 36 to cause said first 30 and second shoulder means 46 to release said keeper means to its firing position 24, and haft means 38 mounted on said body means 10 for hand pulling said body means along with a bowstring held by said keeper means, wherein said haft means 38 is attached to said body means by spring means 42 selected to impart a desired lost motion action 43 to said haft means 38 at a preselected bowstring draw force whereby the relative axial positions of said bowstring, body means, keeper means and trigger means remain substantially fixed during said lost motion action until said trigger means 26 is physically moved rearwardly on said body means 10 by the archer to said second axial position 36.

7. A keeper structure 20 for holding and releasing an archery bowstring comprising a base 75 of a generally rectangular cross-section and having a longitudinal axis 76, a proximal end 77, a distal end 78, top surface 79, a bottom surface 81, and a keeper segment 44 extending longitudinally from said proximal end and providing a contact shoulder 82 downwardly facing, bowstring hooking wall means 83 extending generally downwardly from said bottom surface 81 and having a bowstring hooking surface 84 slanting longitudinally toward said proximal end 77 at an angle to said axis 76 of from about 20° to about 40° to provide a keeper notch 85, said wall means 83 having a bottom edge 86 and being curved generally concavely in a distal direction to provide a distally opening cavity 87. A keeper post 88 extending generally downwardly thru said cavity 87 from said bottom

surface 86 and slanting longitudinally toward said proximal end 77 at an angle to said axis 76 of from about 2° to about 30°, and said base further having tether tie means 89 to which a keeper loop 90 can be attached.

8. The keeper structure of claim 7 wherein said contact shoulder 82 is a sharp edge 92.

9. The keeper structure of claim 7 wherein said tie means 89 comprises a side-by-side pair of apertures extending thru said base from said bottom surface 81 to said top surface 79.

10. The keeper structure of claim 7 wherein said wall means 83 is formed integrally on said base means, and said post 88 is press fitted into a bore 91 provided in said base means.

11. The breech structure of claim 1 wherein said second shoulder means comprises a roller mounted on an arm which is pivotally mounted on said body means, and wherein said first shoulder means is fixed on said trigger means.

12. The breech structure of claim 1 wherein said first shoulder means comprises a roller mounted on said distal portion of said sleeve means, and wherein said second shoulder means comprises a contact shoulder on said keeper means.

13. The breech structure of claim 1 wherein cooperating structural elements of trigger sensitivity adjustments are provided on said breech structure for setting the relative axial positions of said first and second shoulder means.